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EXAMINER

POPHAM, JEFFREY D

ART UNIT

PAPER NUMBER

2137

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/035,653

Applicant(s)

MIZELL ET AL.

Examiner

Jeffrey D. Popham

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Remarks***

Claims 1-39 are pending.

***Response to Arguments***

1. Applicant's arguments, see remarks, filed 12/9/05, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made with Hughes (U.S. Patent 6,122,372) in view of Blott (EP 1,054,529), PChelp ("How to Obscure Any URL", 1/27/2001, pp. 1-11, obtained from <http://web.archive.org/web/20010206195949/http://www.pc-help.org/obscure.htm>), Nichols (Nichols et al., "Definition of Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers", The Internet Society, 1998, pp. 1-20), and Uskela (WO 01/471179).

Regarding applicant's argument as they may still be pertinent to the new grounds of rejection:

Applicants argue that Blott does not teach "levying a tariff against the originator of the packet". To levy is to assess or impose a tariff. A tariff is defined as usage fees for a given service. Paragraph 50 of Blott teaches billing a user for a given service (assessing or imposing usage fees against the user for a service). Paragraph 28 teaches storing information related to an originator's use of a service that is used for billing the user.

Applicants also argue that Blott teaches away from the claimed invention by using the language "may or may not" regarding the storage of source and destination IP

addresses. The mere fact that an embodiment of Blott may not store the IP addresses is of no consequence, since other embodiments store and use the IP addresses.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5, 8, 11-18, 20, 23, 24, 28-30, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (U.S. Patent 6,122,372) in view of Blott (EP 1,054,529 A2).

Regarding Claim 1,

Hughes discloses a method of authenticating an originator of a packet in a network, comprising:

Filtering the packet for a tag embedded therein (Column 10, line 53 to Column 11, line 25);

Reading contents of the tag including an identifier of the originator and an encrypted hash (Column 11, lines 1-25);

Decrypting the encrypted hash included in the tag (Column 11, lines 1-25);

Calculating a second hash from the identifier (Column 6, lines 36-53); and

Authenticating the originator of the packet upon determining that the decrypted hash and the calculated hash are identical (Column 6, lines 36-53; and Column 11, lines 1-25).

Hughes does not disclose that the identifier of the originator is an address.

Blott, however, discloses that the identifier of the originator is an address (Page 7, Paragraphs 36-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the encapsulated message authentication system of Hughes in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage depending on the level of QoS the user receives and wishes to receive (Page 9, Paragraph 50).

Regarding Claim 3,

Hughes as modified by Blott discloses the method of claim 1, in addition, Hughes discloses that decrypting the encrypted hash included in the tag further comprises decrypting the encrypted hash with a public key assigned to the originator (Column 11, lines 1-25).

Regarding Claim 4,

Hughes as modified by Blott discloses the method of claim 1, in addition, Hughes discloses that calculating a second hash from the identifier of the originator further comprises calculating the second hash

from an instance of a hashing algorithm used by the originator to generate the encrypted hash (Column 6, lines 36-53; and Column 11, lines 1-25).

Regarding Claim 5,

Hughes as modified by Blott discloses the method of claim 1, in addition, Blott discloses specifying a billing treatment for the packet upon authentication of the originator (Page 7, Paragraphs 36-39).

Regarding Claim 8,

Hughes as modified by Blott discloses the method of claim 5, in addition, Blott discloses that specifying a billing treatment for the packet upon authentication of the originator further comprises interrogating a database of billing treatment directives, the database including a record containing the address of the originator and an associated record specifying the billing treatment (Page 7, Paragraphs 36-39).

Regarding Claim 11,

Hughes as modified by Blott discloses the method of claim 5, in addition, Blott discloses generating a call detail record having a traffic volume count of a data session that includes the packet (Page 5, Paragraph 28); and calculating a tariff for the data session based upon the contents of the call detail record (Page 9, Paragraph 50).

Regarding Claim 12,

Hughes as modified by Blott discloses the method of claim 11, in addition, Blott discloses that calculating a tariff for the data session further

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comprises calculating a the tariff and levying the tariff against the originator of the packet (Page 5, Paragraph 28; and Page 9, Paragraph 50).

Regarding Claim 13,

Hughes as modified by Blott discloses the method of claim 11, in addition, Blott discloses that calculating a tariff for the data session further comprises parsing the traffic volume count from other traffic volume counts included in the call detail record, the calculated tariff calculated for the parsed traffic volume count independently of the other traffic volume counts (Page 5, Paragraph 28; Page 7, Paragraph 36; and Page 9, Paragraph 50).

Regarding Claim 14,

Hughes as modified by Blott discloses the method of claim 11, in addition, Blott discloses that generating a call detail record having a traffic volume count further comprises generating a call detail record having the traffic volume count and the address of the originator associated therewith (Page 5, Paragraph 28; and Figure 3).

Regarding Claim 15,

Hughes discloses a node in a network for authenticating an originator of a packet, comprising:

A processing unit (Column 5, lines 39-52);

A memory unit operable to store an authentication algorithm therein that is executable by the processing unit (Column 6, lines 36-53; and Column 19, lines 1-15); and

An interface to a network operable to receive the packet (Column 5, lines 39-52), the authentication algorithm operable to filter the packet for a tag embedded therein (Column 10, line 53 to Column 11, line 25), decrypt an encrypted hash in the embedded tag (Column 11, lines 1-25), calculate a hash from an identifier of the originator in the tag (Column 6, lines 36-53), and authenticate the originator upon a comparison between the decrypted hash and the calculated hash (Column 6, lines 36-53; and Column 11, lines 1-25);

But does not disclose that the identifier of the originator is an address.

Blott, however, discloses that the identifier of the originator is an address (Page 7, Paragraphs 36-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the encapsulated message authentication system of Hughes in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage depending on the level of QoS the user receives and wishes to receive (Page 9, Paragraph 50).

Regarding Claim 16,



Hughes as modified by Blott discloses the apparatus of claim 15, in addition, Hughes discloses an instance of a hashing algorithm executable by the processing unit, a second instance of the hashing algorithm executable by the originator of the packet and operable to generate the encrypted hash (Column 8, line 57 to Column 9, line 8; and Column 19, lines 1-15).

Regarding Claim 17,

Hughes as modified by Blott discloses the apparatus of claim 15, in addition, Blott discloses an accounting algorithm executable by the processing unit and operable to generate a call detail record including a traffic volume count of a data session including the packet (Page 7, Paragraphs 36-39).

Regarding Claim 18,

Hughes as modified by Blott discloses the apparatus of claim 17, in addition, Blott discloses that the call detail record further includes the address of the originator in associated with the traffic volume count (Page 7, Paragraphs 36-39).

Regarding Claim 20,

Hughes as modified by Blott discloses the apparatus of claim 15, in addition, Blott discloses a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the node operable to condition the packet such

that the network forwards the packet according to the traffic treatment specification (Page 4, Paragraph 22; and Page 7, Paragraphs 36-39).

Regarding Claim 23,

Hughes as modified by Blott discloses the apparatus of claim 17, in addition, Blott discloses that the node is operable to forward the call detail record to a second node in the network operable to perform billing procedures on the contents thereof (Page 9, Paragraph 50).

Regarding Claim 24,

Hughes discloses a telecommunication network operable to transmit a data packet from an originator to a terminating device within the network, comprising:

A first node connected to a data network and operable to receive the packet generated by the originator (Column 10, line 53 to Column 11, line 25), the first node operable to execute an authentication algorithm operable to filter the packet for a tag embedded therein (Column 10, line 53 to Column 11, line 25), decrypt an encrypted hash in the embedded tag (Column 11, lines 1-25), calculate a hash from an identifier of the originator in the tag (Column 6, lines 36-53), and authenticate the originator upon a comparison between the decrypted hash and the calculated hash (Column 6, lines 36-53; and Column 11, lines 1-25); and

A terminating device (Column 23, lines 30-50);

But does not disclose that the identifier of the originator is an address or a second node operable to receive the packet from the first node and transmit the packet to a terminating device.

Blott, however, discloses that the identifier of the originator is an address (Page 7, Paragraphs 36-39); and

A second node operable to receive the packet from the first node and transmit the packet to a terminating device (Pages 8-9, Paragraph 48).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the encapsulated message authentication system of Hughes in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage depending on the level of QoS the user receives and wishes to receive (Page 9, Paragraph 50).

Regarding Claim 28,

Hughes as modified by Blott discloses the system of claim 24, in addition, Hughes discloses that the originator is operable to execute a first instance of a hashing algorithm that generates the encrypted hash (Column 8, line 57 to Column 9, line 8; and Column 19, lines 1-15), the first node further comprising a second instance of the hashing algorithm

operable to calculate the hash from the address of the originator in the tag (Column 6, lines 36-53; and Column 11, lines 1-25).

Regarding Claim 29,

Hughes as modified by Blott discloses the system of claim 24, in addition, Blott discloses an accounting algorithm executable thereby and operable to generate a call detail record including a traffic volume count of a data session including the packet (Page 7, Paragraphs 36-39).

Regarding Claim 30,

Hughes as modified by Blott discloses the system of claim 29, in addition, Blott discloses that the call detail record further includes an address of the originator in association with the traffic volume count (Column 7, Paragraphs 36-39).

Regarding Claim 36,

Hughes as modified by Blott discloses the system of claim 24, in addition, Blott discloses a billing node operable to perform billing procedures on a call detail record, the billing node including an interface with the first node and operable to receive a call detail record thereon (Page 9, Paragraph 50), the billing node operable to execute a billing algorithm operable to generate a tariff dependent on contents of a traffic volume container included in the call detail record (Page 5, Paragraph 28; and Page 9, Paragraph 50), the call detail record having the address of

the originator associated therewith, the tariff further dependent on the address of the originator (Page 5, Paragraph 28; and Figure 3).

Regarding Claim 37,

Hughes as modified by Blott discloses the system of claim 36, in addition, Blott discloses that the tariff is levied against the originator (Page 5, Paragraph 28; and Page 9, Paragraph 50).

Regarding Claim 38,

Hughes as modified by Blott discloses the system of claim 36, in addition, Blott discloses that the tariff is levied against the terminating device (Page 6, Paragraph 34; Page 7, Paragraph 37; and Page 9, Paragraph 50).

Regarding Claim 39,

Hughes as modified by Blott discloses the system of claim 36, in addition, Blott discloses that the call detail record includes other traffic volume containers, the tariff dependent on the address of the originator being independent of the other traffic volume containers (Page 5, Paragraph 28; Page 7, paragraph 36; and Page 9, Paragraph 50).

3. Claims 2, 19, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of Blott, further in view of PChelp ("How to Obscure Any URL", 1/27/2001, pp. 1-11, obtained from <http://web.archive.org/web/20010206195949/http://www.pc-help.org/obscure.htm>).

Regarding Claim 2,

Hughes as modified by Blott discloses the method of claim 1, in addition, Hughes discloses reading contents of the tag including an identifier of the originator (Column 11, lines 1-25), and Blott discloses that the identifier is an IP address (Page 7, Paragraphs 36-39). Hughes as modified by Blott does not disclose that the identifier is a URL.

PChelp, however, discloses that the identifier is a URL (Pages 1-3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the URL/IP address conversion techniques of PChelp into the encapsulated message authentication system of Hughes as modified by Blott in order to allow the system to understand many formats of addresses, and thus the capability to determine when multiple addresses that look completely different are actually the same.

Regarding Claim 19,

Hughes as modified by Blott does not disclose that the address is a URL.

PChelp, however, discloses that the address of the originator is a URL of the originator (Pages 1-3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the URL/IP address conversion techniques of PChelp into the encapsulated message authentication system of Hughes as modified by

Blott in order to allow the system to understand many formats of addresses, and thus the capability to determine when multiple addresses that look completely different are actually the same.

Regarding Claim 31,

Hughes as modified by Blott does not disclose that the address is a URL.

PChelp, however, discloses that the address is a URL (Pages 1-3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the URL/IP address conversion techniques of PChelp into the encapsulated message authentication system of Hughes as modified by Blott in order to allow the system to understand many formats of addresses, and thus the capability to determine when multiple addresses that look completely different are actually the same.

Regarding Claim 32,

Hughes as modified by Blott and PChelp discloses the system of claim 31, in addition, Blott discloses a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the first node operable to condition the packet such that the network forwards the packet according to the traffic treatment specification (Page 4, Paragraph 22; and Page 7, Paragraphs 36-39).

4. Claims 6, 7, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of Blott, further in view of Nichols (Nichols et al., "Definition of Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers", The Internet Society, 1998, pp. 1-20).

Regarding Claim 6,

Hughes as modified by Blott does not disclose writing a differentiated services codepoint into the packet upon authentication of the originator.

Nichols, however, discloses writing a differentiated services codepoint into the packet upon authentication of the originator (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the encapsulated message authentication system of Hughes as modified by Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 7,

Hughes as modified by Blott and Nichols discloses the method of claim 6, in addition, Nichols discloses that writing a differentiated services codepoint into the packet further comprises writing a differentiated services codepoint into at least one of a traffic class octet of an IPv6



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packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

Regarding Claim 21,

Hughes as modified by Blott does not disclose a differentiated services codepoint.

Nichols, however, discloses that the traffic treatment specification is a differentiated services codepoint (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the encapsulated message authentication system of Hughes as modified by Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 22,

Hughes as modified by Blott and Nichols discloses the apparatus of claim 21, in addition, Nichols discloses that the node is operable to write the differentiated services codepoint into at least one of a traffic class octet of an IPv6 packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

5. Claims 9, 10, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of Blott, PChelp, and Nichols.

Regarding Claim 9,

Hughes as modified by Blott discloses the method of claim 8, in addition, Blott discloses that interrogating a database of billing treatment directives further comprises interrogating the database that includes a record containing an address of the originator (Page 7, Paragraphs 36-39). Hughes as modified by Blott does not disclose that the address is a URL or that the associated record contains a differentiated service codepoint.

PChelp, however, discloses that the address is a URL (Pages 1-3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the URL/IP address conversion techniques of PChelp into the encapsulated message authentication system of Hughes as modified by Blott in order to allow the system to understand many formats of addresses, and thus the capability to determine when multiple addresses that look completely different are actually the same.

Nichols, however, discloses that the associated record contains a differentiated service codepoint (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the encapsulated message authentication system of Hughes as modified by Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 10,

Hughes as modified by Blott, PChelp, and Nichols discloses the method of claim 9, in addition, Blott discloses that interrogating the database further comprises supplying the database with the address of the originator read from the tag contents, the address of the originator indexing the record containing the address (Page 7, Paragraphs 36-39);

PChelp discloses that the address is a URL (Pages 1-3); and

Nichols discloses reading the differentiated service codepoint from the associated record (Pages 7-9, Section 3).

Regarding Claim 33,

Hughes as modified by Blott and PChelp does not disclose a differentiated services codepoint.

Nichols, however, discloses a differentiated services codepoint (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the encapsulated message authentication system of Hughes as modified by Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 34,

Hughes as modified by Blott, PChelp, and Nichols discloses the system of claim 33, in addition, Nichols discloses that the first node is

operable to write the differentiated services codepoint into at least one of a traffic class octet of an IPv6 packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

Regarding Claim 35,

Hughes as modified by Blott, PChelp, and Nichols discloses the system of claim 34, in addition, Blott discloses that the first node and the second node are operable to provide forwarding treatments of the packet across the network according to service specifications (Page 7, Paragraphs 36-39); and

Nichols discloses that the service specifications are associated with the differentiated services codepoint (Pages 7-9, Section 3).

6. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of Blott, further in view of Uskela (WO 01/471179).

Regarding Claim 25,

Hughes as modified by Blott does not disclose that the terminating device is a mobile terminal.

Uskela, however, discloses that the terminating device is a mobile terminal (Page 5, line 28 to Page 6, line 10). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the wireless communication system of Uskela into the encapsulated message authentication system of Hughes in order to

prevent spoofing so that one party cannot act as though it is another party, and so that the system can be implemented in a wireless communication system, thus expanding the system's use.

Regarding Claim 26,

Hughes as modified by Blott and Uskela discloses the system of claim 25, in addition, Uskela discloses that the network is a mobile telecommunication system and the second node is a switching system, the network further comprising a base station subsystem (Page 5, line 28 to Page 6, line 10) and a base transceiver station managed by the base station subsystem, the terminating device in communication with the base station transceiver station (Page 5, line 28 to Page 6, line 10; and Figure 1).

Regarding Claim 27,

Hughes as modified by Blott and Uskela discloses the system of claim 26, in addition, Uskela discloses that the first node is a gateway general packet radio services support node (Page 6, lines 11-30).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Popham whose telephone number is (571)-272-7215. The examiner can normally be reached on M-F 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey D Popham  
Examiner  
Art Unit 2137

  
**EMMANUEL L. MOISE**  
**SUPERVISORY PATENT EXAMINER**